

Appl. No. : 10/637,450
Filed : August 8, 2003

REMARKS

Claims 11 and 30 have been canceled without prejudice. Claim 12 has been rewritten in independent form including all of the limitations of Claim 11 and amended to correct indefinite terms. Claim 13 has been amended to depend from Claim 12 and to correct clerical errors. Claim 14 has been rewritten in independent form. Support for the amendments to Claim 14 can be found in Claims 11 and 15 and page 87, line 1 of the specification, for example. Claim 15 has been amended in accordance with the amendments to Claim 14 and to correct indefinite terms. Claims 17-19 have been amended to change the dependencies. Claims 31-33 have been added. Support for the new claims can be found on page 87, lines 1-7 of the specification, for example. Accordingly, Claims 12-26 and 31-33 are pending in this application.

The specification has been amended to correct typographical errors. Support for the amendments can be found in an enclosed copy of verified English translation of the original PCT application. The amendments do not constitute the addition of new matter to the application. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Affirmation of Restriction Requirement

A provisional election was made without traverse (contrary to the Examiner's assertion) to prosecute the invention of Group I, claims 11-26 on June 25, 2004. Applicant affirms hereby this election.

Claim Objection

Claims 17 and 18 have been objected to as being in improper form because a multiple dependent claim cannot depend on a preceding multiple dependent claim. Claims 17 and 18 have been amended to correct the improper form, thereby obviating the objection. It is respectfully requested that the objection be withdrawn.

Rejection of Claims 12, 13, 15, 17 and 18 Under 35 U.S.C. § 112

Claims 12, 13, 15, 17 and 18 have been rejected under 35 U.S.C. 112, second paragraph, with regard to the indefinite terms set forth in the office action. These claims have been amended to correct the indefinite terms, thereby obviating the rejection. It is respectfully submitted that the rejection should be withdrawn.

Rejection of Claim 11 Under 35 U.S.C. § 102

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Claim 11 has been rejected under 35 U.S.C. 102(b) as being clearly anticipated by US 3,920,477 (Alaburda). Claim 11 has been canceled without prejudice. Thus, this rejection is moot.

Rejection of Claims 11 and 14 Under 35 U.S.C. § 102

Claims 11 and 14 have been rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 60-044964A. As described above, Claim 11 has been canceled. Claim 14 has been amended for clarification. Claim 14 as amended herein could not be anticipated by JP 60-044964A as explained below.

Claim 14 recites: “the separator is made of a material including polyethylene and is bonded with the positive electrode and/or the negative electrode by fusing the polyethylene in the separator.” It is preferable to fuse a separator by heat and bond it with an electrode because impurities are not contained, the separator is not easily creased, and moreover warpage or burr of the electrode produced due to a slit or the like can be corrected at the same time. Further, it is possible to easily bond a separator since “polyethylene” has a low fusing point (see page 86, line 26 to page 87, line 1 of the specification).

In contrast, JP 60-044964A does not disclose polyethylene as a material of the separator or fusing the polyethylene (see partial English translation of the related part in the attached Appendix A). In the present invention, it is important to use “polyethylene”. JP 60-044964A fails to disclose every elements of the claimed invention, and withdrawal of the rejection under 35 U.S.C. §102 is respectfully requested.

Rejection of Claims 11, 14 and 15 Under 35 U.S.C. § 102

Claims 11 and 14-15 have been rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 06-036801A. As described above, Claim 11 has been canceled. Claim 14 as amended herein is independent and Claim 15 is dependent on Claim 14. Claims 14 and 15 could not be anticipated by JP 06-036801A as explained below.

JP 06-036801A also does not disclose polyethylene as a material of the separator (see partial English translation of the related part in the attached Appendix A). JP 06-036801A fails to disclose every elements of the claimed invention, and withdrawal of the rejection under 35 U.S.C. §102 is respectfully requested.

Allowable Subject Matter

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Claim 12 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, second paragraph, set forth in this office action and to include all of the limitations of the base claim and any intervening claims. Claim 12 has been rewritten to overcome the indefinite rejection and to include all of the limitations of Claim 11. Therefore, it is respectfully submitted that Claim 12 should be allowable.

The Examiner states that Claims 13 and 16-26, all dependent upon Claim 12 are also allowable. Contrary to the Examiner's assertion, original Claim 13 was not dependent on Claim 12. However, current Claim 13 has been amended to depend on Claim 12 as amended herein. Thus, Claims 13 and 16-26, all dependent upon Claim 12 are also allowable.

New Claims 31-33

Claims 31-33 are dependent ultimately on Claim 14. At least for the reason above, the new claims could not be anticipated by the prior art.

CONCLUSION

In light of the Applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: November 30, 2004

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Partial Translation of the Cited Reference

(For USSN 10/637,450)

1. Japanese Unexamined Patent Publication No. 1985-44964
(Sho60-44964)

Page 2, lower right column, lines 5-14

In Figs. 1 and 2, the reference numbers show the following parts; 1: negative electrode container functionable as both of a current collector of the negative electrode and a terminal of the negative electrode, 2: lithium sheet of negative electrode press-adhered to the inside of 1, 3: separator of polypropylene non-woven fabric, 4: positive electrode made by applying paste of a mixture on one side of a positive electrode container and drying the paste, which paste contains manganese dioxide as an active material, acetylene-black as an electrically conducting material, dispersion of fluorinated resin as a binder, and carboxymethylcellulose as a viscosity enhancer.

2. Japanese Unexamined Patent Publication No. 1994-36801
(Hei06-36801)

Paragraph [0016]

[Embodiment] An embodiment of the present invention is explained in detail with reference to the accompanied drawings. In the following test, a rectangular lithium secondary battery having a structure shown below was produced and used for the test.

Paragraph [0017]

Positive electrode: A mixture of amorphous Pentoxide vanadium particles, cyclohexane solution of ethylene propylene terpolymer (EPDM), and acetylene-black particles was applied on both side of a stainless foil of 10 μ m (micron meter) thick, and it was dried, pressed and cut into the size of 13mm wide and 36mm long.

Paragraph [0018]

Negative electrode: metal lithium of 13mm wide, 38mm long and 50 μ m (micron meter) thick

Paragraph [0019]

Separator: polypropylene porous membrane of 25 μ m (micron meter) thick